an input signal port to which modulated signals to be demodulated are coupled;

a matched filter, the signal response characteristics of which are defined in accordance with said second code sequence, coupled to said input signal port;

first means for generating said first code sequence; and

second means, coupled to said first means and said matched filter, for combining the output of said matched filter and said first code sequence and producing therefrom output signals corresponding to said information signals, and wherein said information signals comprise digital data signals, the bit period of which is a first integral multiple of the length of said second code sequence, and wherein the length of the said first code sequence is a second integral multiple of the length of said second code sequence.

2. An apparatus according to claim **1**, wherein said matched filter comprises a surface acoustic wave matched filter device.

3. An apparatus according to claim **1**, wherein length of said first code sequence is longer than said bit period.

4. An apparatus according to claim **1**, wherein said first and second integers are relatively prime numbers.

5. An apparatus for demodulating modulated digital data signals that are comprised of encoded digital data signals that have been multiplied by a first spreading sequence and by a second spreading sequence, said second spreading sequence being shorter than said first spreading sequence, to produce modulated digital data signals comprising:

a matched filter, the signal response characteristics of which are defined in accordance with said second spreading sequence, for receiving said modulated digital data signals and producing a first output signal absent said second spreading sequence;

first means for generating said first spreading sequence;

second means, coupled to said first means and said matched filter, for multiplying said first output signal by said first spreading sequence and producing therefrom a second output signal absent said first spreading sequence; and

third means, coupled to said second means, for decoding said second output signal to produce a third decoded output signal;

fourth means, coupled to said third means, for accumulating the energy contained in said third decoded output signal; and

fifth means, coupled to said fourth means, for generating recovered digital data signals in accordance with accumulated energy contents of said decoded output signals.

6. An apparatus according to claim **5**, wherein said matched filter comprises a surface acoustic wave matched filter device.

7. An apparatus according to claim **5**, wherein the bit period of a digital data signal is a first integral multiple of the length of said second spreading sequence.

8. An apparatus according to claim **7**, wherein the length of said first spreading sequence is a second integral multiple of the length of said second spreading sequence.

9. An apparatus according to claim **8**, wherein length of said first spreading sequence is longer than said bit period.

10. An apparatus according to claim **8**, wherein said first and second integers are relatively prime numbers.

11. A communication system comprising:

a transmitter site including

an input port to which digital information signals are applied,

first means, coupled to said input port, for combining said digital information signals with a first modulation code sequence to produce a first modulation signal,

second means, coupled to said first means, for combining said first modulation signal with a second modulation code sequence to produce a second modulation signal, and

third means, coupled to said second means, for transmitting said second modulation signal to a receiver site, and

a receiver site including

a matched filter, the signal response characteristics of which are defined in accordance with said second modulation code sequence, coupled to receive said second modulation signal and producing therefrom a first output signal absent said second modulation code sequence,

fourth means for generating said first modulation code sequence, and

fifth means, coupled to said fourth means and said matched filter, for combining the first output signal from said matched filter with said first modulation code sequence and producing therefrom output signals corresponding to said digital information signals.

12. An apparatus according to claim **11**, wherein said digital information signals have a bit period which is first integral multiple of the length of said second modulation code sequence.

13. An apparatus according to claim **12**, wherein the length of said first, modulation code sequence is second integral multiple of the length of said second modulation code sequence.

14. An apparatus according to claim **13**, wherein length of said first modulation code sequence is longer than said bit period.

15. An apparatus according to claim **13**, wherein said first and second integers are relatively prime numbers.

16. An apparatus according to claim **11**, wherein said matched filter comprises a surface acoustic wave matched filter device.

17. An apparatus for modulating digital information signals comprising:

first means for combining said digital information signals with a first modulation code sequence to produce a first modulation signals;

second means, coupled to said first means, for combining said first modulation signal with a second modulation code sequence, said second modulation code sequence being shorter than said first modulation code sequence, to produce a second modulation signal; and wherein

the bit period of said digital information signals is a first integral multiple of the length of said second modulation code sequence, the length of said first modulation code sequence is a second integral multiple of the length of said second modulation code sequence, and the length of said first modulation code sequence is longer than said bit period.

18. An apparatus according to claim **17**, wherein said first and second integers are relatively prime numbers.